Appl. No. 09/909,049
Amd. Dated September 27, 2005
Reply to Final Office Action of June 30, 2005

REMARKS/ARGUMENTS

Reconsideration of the rejections set forth in the Final Office Action dated June 30, 2005 and the Advisory Action dated September 6, 2005, is respectfully requested. Claims 1-6, 8-16, 18-31, 33, 37, and 38 have been rejected. Claims 12-16, 18, 28-31, and 33 have been cancelled. Claims 39-45 have been added. As such, claims 1-6, 8-11, 19-27, and 37-45 are currently pending.

New claim 39 recites limitations similar to those recited in claim 1, and also recites that an input is further arranged to specify a load characteristic that is to be accounted for when an alternate circuit path is generated. Support for this new claim may be found throughout the Specification. New claims 40 and 41 recite similar limitations as those recited in claims 2 and 3. New claims 42 and 43 recite that a list mechanism is a tabular list. Support for these new claims may be found in the Specification, e.g., on page 24 at lines 18-20. New claim 44 recites a method associated with the device of claim 1. New claim 45 recites that circuit characteristics may include a load balancing characteristic and a shortest path characteristic. Support for this new claim may be found in the Specification, as for example on page 18 at lines 19-23.

Claim 1 has been amended for clarity, and to recite that an input is further arranged to specify circuit characteristics for a primary circuit path and for an alternate circuit path is generated. Support for these amendments may be found in the Specification, as for example from page 17 at line 20 to page 18 at line 20. Claim 1 has also been amended to recite that a list mechanism is stored in a memory. Support for this amendment may be found in the Specification, e.g., on page 18 at lines 22-25.

Claim 19 has been amended to recite that a route generator is arranged to accept an input of a nodal diverse constraint of a link diverse constraint for a second circuit path. The input also specifies circuit characteristics for the first circuit path and for the second circuit path is generated. Support for these amendments may be found, for example, in the Specification from page 17 at line 1 to page 18 at line 20. Claim 24 has been amended in a similar manner as claim 19.

Rejections under 35 U.S.C § 102 and 35 U.S.C § 103

Claims 1-3, 5, 8-14, 37, and 38 have been rejected under 35 U.S.C § 102(e) as being anticipated by Allen, U.S. Patent Publication No. 2001/0032271 (Allen). Claims 19, 21-23, 24, 26, and 27 have been rejected under 35 U.S.C § 103(a) as being obvious over Allen. Claims 4, 6, 16, 18, 20, 25, 28-30, and 33 have been rejected under 35 U.S.C § 103(a) as being unpatentable over Allen as applied to claims 1, 5, 12, 17, 19, and 24, and further in view of Applicant's prior art. Claim 15 has been rejected under 35 U.S.C § 103(a) as being unpatentable over Allen as applied to claim 12, and further in view of Swallow, U.S. Patent No. 6,751,190 (Swallow). Claim 31 has been rejected under 35 U.S.C § 103(a) as being unpatentable over Allen as applied to claim 12, and further in view of Swallow.

Independent claim 1 requires that a device includes a route generator and a list mechanism. The route generator is arranged to generate an alternate circuit path between a first node and a second node using a list mechanism stored on a memory. The route generator is arranged to accept an input that is arranged to specify one of a nodal diverse constraint and a link diverse constraint for the alternate circuit path. The input is also arranged to specify circuit characteristics for a primary circuit path and for the alternate circuit path. The alternate circuit path is generated so as not to include the first element identified by the list mechanism, and is not affected by a failure of the first element.

It is respectfully submitted that none of the cited art teaches or suggests an input that specifies circuit characteristics for a primary circuit path and for an alternate circuit path is generated. As such, claim 1 is believed to be allowable over the cited art for at least this reason.

Additionally, the cited art also does not appear to disclose a list mechanism that is stored in memory. The Examiner has argued, as for example on page 3 of the Final Office Action dated June 30, 2005, that Allen teaches of a list mechanism. It is noted that although the Applicants do not agree that the route digest of the Bloom filter of Allen is equivalent to the list mechanism of claim 1, the route digest is not disclosed as being stored in memory and is only disclosed as accompanying a path establishment request message (Allen, paragraph [0038]). There is no

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suggestion that the route digest is stored in a memory. Therefore, claim 1 is believed to be allowable over the cited art for at least this reason as well.

The ability to specify an <u>input</u> of either a nodal diverse constraint or a link diverse constraint, an alternate path may be routed to include either no nodes that are included in a corresponding primary path or no links that are included in the primary path, respectively. As such, the routing of an alternate path may occur with a relatively high level of efficiency (Specification, on page 11 at lines 1-4).

The Examiner has argued, on page 2 of the Final Office Action dated June 30, 2005, that Allen discloses a system "wherein the route generator is arranged to accept an input, the input being arranged to specify one of a nodal diverse constraint or a link diverse constraint for the alternate circuit path (see paragraphs [0037-0038])." Further, on pages 8 and 9 of the Final Office Action dated June 30, 2005, the Examiner has stated that "the word constraint is too broad to overcome the prior art. Allen does in fact generate a route that constrains a second path to be diverse from an initial path as cited in paragraphs [0037] and [0038], where an explicit path, which does not overlap the initial path, is generated." It is submitted that a link diverse constraint and a nodal diverse constraint specifically, and clearly, specify constraining a second path to not include links from a first path and constraining a second path to not include nodes from a first path, respectively.

The Applicant respectfully disagrees with the Examiner, and submits that Allen does not disclose or suggest a system where are route generator is arranged to accept an <u>input</u>, or that such an input is arranged to specify either a nodal diverse constraint or a link diverse constraint. While the Applicant also disagrees with the Examiner's argument that the word constraint is too broad to overcome the prior art, the Applicant notes that <u>Allen does not appear to disclose an input that specifies any constraint</u>.

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At paragraph [0037], Allen teaches as follows:

> "....In order to reduce likelihood that the secondary path
> shares resources and therefore a common point of failure with the
> initial path, originating node 102a may establish an explicit path
> having different routing nodes using MPLS ER-LSP.
> Alternatively, again, any other suitable path establishment
> mechanism may be used to establish the secondary path. So, for
> example, hop-to-hop LSR path establishment could be used."

At paragraph [0038], Allen states:

> "Now, a path establishment request message for the second
> path may be accompanied with the route digest for ... the initial
> path.... Each node receiving this second path establishment
> message, along the subsequent path, may **use local knowledge of
> resources used by hops to and from the node to assess overlap
> in these resources and the primary path to make routing
> decisions** in manners exemplary of the present invention.... a node
> 102 may either choose different resource to complete the path or
> dispatch a message indication that a desired path is inappropriate as
> it lacks diversity from the initial path." [emphasis added]

Paragraphs [0037] and [0038] appear to disclose establishing paths having different
routing nodes and of using a path establishment request message. However, Allen fails to
disclose <u>an input accepted by a route generator that specifies any constraint, let alone either a
nodal diverse constraint or a link diverse constraint</u>. A path establishment request message is
not disclosed as being anything more than a message which requests that a second path be
established. While the message may include a route digest, the route digest only specifies nodes
included in an initial path. There is no disclosure that the path establishment request message is
associated with an input that specifies either a nodal diverse constraint or a link diverse
constraint. Instead, the Applicant notes that Allen teaches of using local knowledge to assess
overlap in resources to make routing decisions. Such local knowledge is not disclosed or even
remotely suggested as being an <u>input</u> that is accepted by a route generator, and is not disclosed as
associated with either a nodal diverse constraint or a link diverse constraint.

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On page 2 of the Advisory Action dated September 6, 2005, the Examiner argues that paragraph [0028] of Allen discloses an input accepted by a route generator that specifies a nodal diverse constraint. It is noted that prior to the Advisory Action dated September 6, 2005, the Examiner had not cited paragraph [0028] teaching of an input. Paragraph [0028] of Allen reads as follows:

> ".... an ER-LSP label request message may include
> **identifiers of a route including nodes ....**" [emphasis added]

It is respectfully submitted that a message that includes identifiers of a route is <u>not</u> the same as an input that specifies one of a nodal diverse constraint or a link diverse constraint for an alternate circuit path. An ER-LSP label request message message, at best, specifies explicit nodes that are included in a path. As such, claim 1 is believed to allowable over Allen for at least the reasons set forth.

Allen discloses establishing an explicit path having different routing nodes from an initial path. However, there is no disclosure or suggestion that establishing the explicit path having different routing nodes involves any <u>input</u> (accepted by a route generator) that specifies either a nodal diverse constraint or a link diverse constraint.

Claims 2-6 and 8-11 each depend either directly or indirectly from amended claim 1, and are therefore each believed to be allowable over the cited art for at least the reasons set forth with respect to claim 1. Each of these claims recites additional limitations which, when considered in light of claim 1, are believed to further distinguish the claimed invention over the cited art.

Independent claims 19 and 24 recite similar limitations as recited in claim 1. Hence, claims 19, 24, and their respective dependents are each believed to be allowable over the cited art for at least the reasons set forth above with respect to claim 1.

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<u>Conclusion</u>

For at least the foregoing reasons, the Applicants believe all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 868-4096.

Respectfully submitted,

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